

REMARKS

Claims 1 – 29 are pending and rejected.

The applicant's attorney amends claims 1, 13, 23 and 24, and adds claims 30 and 31. Claims 1, 13 and 24 are amended to address the examiner's rejections. Claim 23 is amended, not to overcome the examiner's rejection, but to more clearly recite an aspect of the applicant's invention. The applicant's attorney respectfully asserts that claims 1 – 31, as amended, are in condition for allowance for the reasons discussed below.

If, after considering this response, the examiner believes the claims should not be allowed, the applicant's attorney respectfully requests that before issuing an Office Action, the examiner call Mr. David Plettner (408-447-3013) or Mr. John Janeway (425-455- 5575) to schedule a telephone conference to further the prosecution of the claims.

Rejection of Claims 1 – 12

The applicant's attorney respectfully asserts that claim 1, as amended, is patentable over U.S. Patents 4,751,435 to Roche *et al.* (Roche), 5,403,195 to Thrush *et al.* (Thrush), and 5,145,413 to Okamoto *et al.* (Okamoto). Roche fails to disclose a capacitor coupled between a first and a second circuit, each disposed in a circuit board. Thrush and Okamoto, each fails to disclose a capacitor serially coupled to the first and second circuits.

The applicant's claim 1, as amended, recites a connector comprising a first contact that contacts a conductor of a first circuit in a circuit board, a second contact that contacts a conductor of a second circuit in a circuit board, and a capacitor coupled between the first and second contacts, the capacitor being serially coupled only to the first and second contacts.

For example, as shown in FIGS. 1 and 2, and discussed in paragraphs 19 – 24 of the specification, a connector 10 capacitively couples a first signal driver 16 that generates a high-speed differential signal to a second signal driver 30 that receives the signal. The connector includes capacitors 50 and 52 to allow an AC component of the high-speed differential signal to reach the driver 30 and to prevent

a DC component of the high-speed differential signal from reaching the driver 30. The driver 16 may be disposed in a circuit board 60 (FIG. 2), and the driver 30 may be disposed in the circuit board 62 (FIG. 2). The connector 10 includes a first pair of contacts 40 and 42 that contact respective conductors 18 and 20 of the driver 16, and a second pair of contacts 44 and 46 that contact respective conductors 36 and 38 of the driver 30. The connector 10 also includes a capacitor 50 serially coupled only to the contacts 40 and 44, and a capacitor 52 serially coupled only to the contacts 42 and 46. Because the capacitors 50 and 52 are serially coupled only to their respective contacts, the connector 10 allows the AC component of the signal generated by the driver 16 to reach the driver 30, and prevents the DC component of the signal from reaching the driver 30.

In contrast, Roche fails to disclose a capacitor coupled between a first and a second circuit, each disposed in a circuit board. Roche discloses a fluorescent lamp 30 that includes a base 38 for attaching the lamp to an incandescent socket. The base 38 includes two contacts 39 and 37 that carry power to and from the lamp by contacting power leads in the socket. The lamp 30 also includes a glass bulb 31, two electrodes 33 and 34 disposed inside the bulb to generate light, and a ballast capacitor 50 to reduce the voltage applied across the electrodes 33 and 34. Roche does not discuss attaching the lamp 30 to a circuit board. Therefore, unlike the applicant's claimed connector 10, Roche's capacitor is not coupled between a first and a second circuit that are each disposed in a circuit board.

Also in contrast to the applicant's connector, Thrush fails to disclose a capacitor serially coupled to the first and second circuits. Thrush discloses a dual inline package (DIP) socket (FIGS. 1 – 3 and 5) for removably mounting a DIP (not shown) on a circuit board (not shown). The socket includes a housing 10, and contacts 20 disposed in a respective cavity 12 of the housing 10. As shown in FIG. 3, when a contact 20 is disposed in the housing 10, a tab 26 (FIG. 2) extends from a face of the socket to be inserted into a female connector (not shown) of a circuit board, and portions 24 and 25 of the contact 20 are exposed through another face of the socket to receive a male connector (not shown) of a DIP. When the DIP is coupled to the socket, each of the one or more male connectors of the DIP are sandwiched between the portions 24 and 25 of a respective one of the contacts 20. Thus, each contact 20 provides a direct path for a signal to travel to and from the

DIP and a circuit in the circuit board. The socket also includes a capacitor 30 to prevent electrical damage to the DIP if the DIP is withdrawn from the socket while the DIP is being powered. To perform this function, the capacitor 30 is coupled to the power contact 20 (for example the upper left contact as shown in FIG. 3) and the ground contact 20 (for example the lower right contact as shown in FIG. 3), and is parallel relative to the power circuits of the DIP and circuit board (which are analogous to the applicant's first and second circuits) and the ground circuits of the DIP and circuit board (also analogous to the applicant's first and second circuits). Thus, the capacitor 30 is analogous to a bypass capacitor that removes an AC component from a signal while allowing a DC component of the signal to proceed to the DIP. The capacitor 30 is not analogous to a blocking capacitor that removes a DC component from a signal while allowing an AC component of the signal to proceed to the DIP. Therefore, unlike the applicant's capacitors 50 and 52, Thrush's capacitor 30 is not serially coupled to the power circuits of the DIP and circuit board, nor the ground circuits of the DIP and circuit board.

Okamoto, also in contrast, fails to disclose a capacitor serially coupled to the first and second circuits. Okamoto discloses a connector for removing an AC component of a signal and allowing a DC component of the signal to proceed. FIGS. 1 – 4 show one embodiment of a connector; FIGS. 5 and 6 show another embodiment; FIGS. 7 – 10 show another embodiment; FIGS. 11 – 12 show another embodiment; FIG. 13 shows another embodiment; and FIGS. 14 and 16 show another embodiment. Each of these embodiments have analogous components, but for clarity only the reference numbers used in FIGS. 1 – 4 will be cited in the following discussion.

The connector 1 includes a lead terminal 2 having a front end 6 that contacts a conductor of a circuit, a rear end 8 that contacts a conductor of another circuit, and an intermediate portion 9. The connector 1 also includes a capacitor 3, and a ground plate 4. When the connector 1 is assembled, each intermediate portion 9 contacts a respective one of the capacitor electrodes 11, and the ground plate 4 contacts the capacitor electrode 12 (FIG. 3). Thus, the capacitor 3 is parallel relative to the front end 6 and rear end 8. When a signal travels from one of the ends 6 and 8 to the other end 8 or 6, the capacitor 3 allows the AC component of the signal to travel to the ground plate 4, but prevents the DC component of the signal from

reaching the ground plate 4. Thus, an AC component of the signal is removed from the signal while a DC component proceeds to the other end 8 or 6 and the circuit coupled to it. Thus, the capacitor 3 is analogous to a bypass capacitor; not a blocking capacitor that removes a DC component from a signal while allowing an AC component of the signal to proceed. Therefore, unlike the applicant's capacitors 50 and 52, Okamoto's capacitor 3 is not serially coupled to the front end 6 and rear end 8.

Claims 2 – 12 and 30 are patentable by virtue of their dependencies on claim 1, as amended.

Rejection of Claims 13 – 23

Claim 13 is patentable over Thrush and Okamoto for reasons similar to those recited above in support of claim 1 over Thrush and Okamoto.

Claims 14 – 23 are patentable by virtue of their dependencies from claim 13.

Rejection of claims 24 – 29

Claim 24 is patentable over Thrush and Okamoto for reasons similar to those recited above in support of claim 1 over Thrush and Okamoto.

Claims 25 – 29 and 31 are patentable by virtue of their dependencies on claim 24, as amended.

Conclusion

The applicant's attorney respectfully requests the examiner withdraw the rejection of claims 1 – 29 and issue an allowance for claims 1 – 31.

If, after considering this response, the examiner believes the claims should not be allowed, the applicants' attorney respectfully requests that before issuing an Office Action, the examiner call Mr. David Plettner (408-447-3013) or Mr. John

Janeway (425-455- 5575) to schedule a telephone conference to further the prosecution of the claims.

DATED this 7th day of March, 2006.

Respectfully submitted,
GRAYBEAL JACKSON HALEY LLP

John M. Janeway
Attorney for Applicant
Registration No. 45,796
155-108th Avenue N.E., Ste. 350
Bellevue, WA 98004-5973
(425) 455-5575